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BEST POSTERS AWARDS

UPTITRATION DOES NOT INCREASE ANTIHYPERTENSIVE EFFICACY: A META-ANALYSIS OF 214 STUDIES WITH 24-HOUR AMBULATORY BLOOD PRESSURE MONITORING

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Session Title: ACC.11 Best Poster Award Competition
Abstract Category: 16. Hypertension
Session-Poster Board Number: 1182-249

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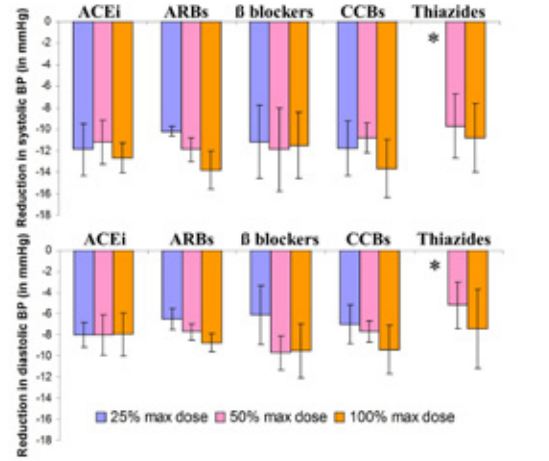
Background: 24-hour ambulatory blood pressure monitoring (ABPM) is considered as the best way to measure the antihypertensive efficacy. Blood pressure (BP) reduction seems to vary with different drug classes in different doses. The aim of our study was to evaluate the antihypertensive efficacy of various antihypertensive drugs at 25%, 50% and 100% of the maximum dose.

Methods: PubMed/Cochrane/Embase search was made from 1990 to present for prospective randomized controlled trials evaluating reduction in BP by 24-hr ABPM with various antihypertensive drug classes in hypertension. Studies were excluded if additional antihypertensive drugs were added. Effect estimates were pooled across studies using random-effects meta-analysis and heterogeneity was assessed using the I2 statistics.

Results: 42 studies with ACE inhibitors with 3105 patients, 55 studies with ARBs with 6273 patients, 24 studies with ß blockers with 557 patients, 69 studies with CCBs with 5777 patients, and 24 studies with 1421 patients with thiazides met the inclusion criteria and were included in the analysis.

Regardless of the dose, all antihypertensive drugs lowered both systolic and diastolic BP to a similar extent. The reduction in BP was not significant for drug classes when the dose was doubled or maximized.

Conclusion: Uptitration of antihypertensive drugs only marginally enhances BP lowering efficacy regardless of drug class. Rather than maximizing the dose of monotherapy, combination treatment should be considered.



Reduction in 24-hr BP at 25%, 50% and 100% max dose for all drug classes

*Error bars represent 95% confidence intervals, * represents lack of studies for thiazides at 25% max dose*